

a carrier³ arranged to axially pass through said roll jacket and structured to be held
① rotationally fixedly at its axial ends;

at least one supporting member⁴ structured and arranged at said carrier to exert a
support force on an inner side of said roll jacket in a pressing plane;

a bearing housing⁶ comprising a non-rotating axial bearing sleeve⁽⁷⁾ with at least one
bearing;

at least one of an axial end of or an axial continuation of said roll jacket being
rotatably mounted by said at least one bearing on said non-rotating axial bearing sleeve;

said bearing housing being secured against rotation and extending into a region
between said at least one of said axial end or axial continuation of said roll jacket and said
carrier;

said bearing housing being structured and arranged to be freely movable relative to
said carrier substantially in the pressing plane;

said roll jacket being radially supported transversely to the pressing plane by said non-
rotating axial bearing sleeve;

a guide device, positioned at an axial end of said carrier and radially between said
bearing sleeve and said carrier, being structured and arranged to permit both a tilting moving
and a movement of said bearing sleeve relative to said carrier substantially in the pressing
plane; and

said roll jacket being axially fixed at said axial end of said carrier by said guide device.

2 30. The deflection controlled roll in accordance with claim 29, wherein said guide device is arranged in at least one of an axially central region of said bearing sleeve and centered relative to said bearing sleeve in an axial direction. ✓

3 31. The deflection controlled roll in accordance with claim 29, wherein said bearing sleeve is radially supported at said carrier transversely to the pressing plane via said guide device. ✓

32. The deflection controlled roll in accordance with claim 29, wherein said guide device comprises:

4 at least one guide member being rotatably mounted in one of said bearing sleeve and said carrier about an axis perpendicular to the pressing plane; and ✓

said at least one guide member being structured and arranged to slide as a follower in a guide provided at one of said carrier or said bearing sleeve and to be displaceably guided essentially parallel to the pressing plane. ✓

h 33. The deflection controlled roll in accordance with claim 32, wherein said at least one guide member comprises at least two follower-like guide members provided on mutually opposite sides of said carrier and each cooperating with a respective guide. ✓

34. The deflection controlled roll in accordance with claim 32, wherein said guide,

6 arranged to cooperate with said at least one guide member, is formed at a counter plate secured to said one of said carrier or said bearing sleeve. *done ✓*

7 35. The deflection controlled roll in accordance with claim 29, wherein said guide member comprises a flange with a collar. *done ✓*

8 36. The deflection controlled roll in accordance with claim 29, wherein said roll jacket is axially fixed to said axial end of said carrier at a drive side via said guide device. *done ✓*

9 37. The deflection controlled roll in accordance with claim 36, wherein said roll jacket is supported radially at a guide side opposite said drive side transversely to the pressing plane via said axial bearing sleeve, and is axially displaceable.

10 38. The deflection controlled roll in accordance with claim 37, wherein said bearing sleeve is radially supported at said carrier via at least two bearing members arranged at mutually opposite carrier sides, and

said bearing members are rotatably mounted in one of said bearing sleeve or said carrier for rotation about an axis perpendicular to the pressing plane.

11 39. The deflection controlled roll in accordance with claim 38, wherein said bearing members cooperate with a counter surface which is formed by a counter plate secured to one of said carrier or said bearing sleeve.

12 40. The deflection controlled roll in accordance with claim 29, wherein at least one piston in cylinder arrangement structured and arranged to act generally in the pressing plane

is provided radially between said bearing sleeve and said carrier.

13 41. The deflection controlled roll in accordance with claim 40, wherein said at least one piston in cylinder arrangement is positioned at at least one of a support member side of at least one of said carrier and at an opposite carrier side. ✓

14 42. The deflection controlled roll in accordance with claim 40, wherein said piston in cylinder arrangement is positioned to at least one of relieve said roll jacket from weight forces acting outside a working width of said roll jacket, one of load or relieve a respective jacket end in order to influence a pressing force distribution in a press nip by controlled pressure medium loading, or fix said roll jacket in place in a position raised from a counter roll by shutting off a pressure medium backflow from said piston in cylinder arrangement. ✓

15 43. The deflection controlled roll in accordance with claim 29, wherein said bearing sleeve is positioned in a region of a carrier spigot narrowed with respect to an axially central region of said carrier. 103

14 44. The deflection controlled roll in accordance with claim 43, wherein a piston in cylinder arrangement is arranged between said narrowed carrier spigot and said bearing sleeve. 18 (Fig 1) 103

17 45. The deflection controlled roll in accordance with claim 29, wherein a piston of a piston in cylinder arrangement structured and arranged to act on said bearing sleeve comprises a relief chamber fed with pressure fluid at a side confronting said bearing sleeve. ✓

26 46. The deflection controlled roll in accordance with claim 45, wherein said relief chamber is fed via at least one capillary. ✓

29 47. The deflection controlled roll in accordance with claim 45, wherein the feeding of said relief chamber takes place via a pressure chamber of said piston in cylinder arrangement and through said piston. ✓

20 48. The deflection controlled roll in accordance with claim 45, wherein a feeding of said relief chamber takes place from a side of said bearing sleeve. ✓

21 49. The deflection controlled roll in accordance with claim 29, wherein a piston of a piston in cylinder arrangement is arranged to directly contact an inner side of said bearing sleeve. ✓

22 50. The deflection controlled roll in accordance with claim 29, wherein a piston of a piston in cylinder arrangement is arranged to contact a shallow side of an intermediate member arranged between said carrier and said ^ebearing sleeve. ✓

23 51. The deflection controlled roll in accordance with claim 29, wherein said at least one of said axial end of or said axial continuation of said roll jacket is rotatably mounted at said bearing sleeve by two axially spaced apart bearings. ✓

24 52. The deflection controlled roll in accordance with claim 51, wherein said two axially spaced apart bearings are each formed by a rolling bearing. ✓

25 53. The deflection controlled roll in accordance with claim 29, wherein said at least

one supporting member comprises a plurality of supporting members arranged to form a single-zone roll, such that said plurality of supporting members are loaded with a same pressure.

24 54. The deflection controlled roll in accordance with claim 29, wherein said at least one supporting member comprises a plurality of supporting members arranged to form a multi-zone roll, such that at least some of said plurality of supporting members are loaded with different pressures.

27 55. The deflection controlled roll in accordance with claim 29, wherein said at least one of said axial end of or said axial continuation of said roll jacket is located at a drive side is arranged to outwardly radially carry a gear ring structured and arranged to the roll drive. ✓ 102

112 28 56. The deflection controlled roll in accordance with claim 55, wherein axial centers of at least one of said gear ring, said bearing arrangement, said guide device, and a piston in cylinder arrangement lie substantially in a common plane perpendicular to a roll axis. two

✓ 57. The deflection controlled roll in accordance with claim 29, further comprising frames arranged to rotationally fixedly hold said ends of said carrier.

✓ 58. The deflection controlled roll in accordance with claim 29, wherein the pressing plane is perpendicular to a roll axis.---